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10/821,065	04/08/2004	William Gordon	GOR101	9201

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EXAMINER
OSTRUP, CLINTON T

ART UNIT	PAPER NUMBER
3771	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/821,065	GORDON, WILLIAM	
	Examiner	Art Unit	
	CLINTON OSTRUP	3771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 March 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☒ Claim(s) *1,5 and 9-11* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 March 2008* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is in response to the amendment filed 3/28/08 and the arguments in the response filed 1/15/08. As directed by the amendment, claims 1, 5, and 12 have been amended. Claims 1-16 are pending in this application.

Specification

2. The disclosure is objected to because of the following informalities: it does not provide a description for reference numbers 77, 86, 87, 99, 100, 101, 102, 111, 112, 113, 115, 116 or 117 in the drawings. Moreover, on page 7, lines 3-9, reference number 81 has been used to describe both a "compressed gas conduit" and a "diluent container." Appropriate correction is required.

Drawings

3. The drawings are objected to because it is unclear what reference numbers 77, 86, 87, 99, 100, 101, 102, 111, 112, 113, 115, 116 or 117 are referring to as they have not been defined in the specification. Moreover, reference number 81 has been used to describe both a "compressed gas conduit" and a "diluent container." Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief

description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

4. Claims 1, 5, and 9-11 are objected to because of the following informalities:

Claim 1 is objected to because it is unclear what is meant by “a lower for profile.” For examination purposes, this phrase was read as “a lower profile.”

Claim 5 is objected to because it is unclear what is meant by "having lower profile." For examination purposes this claim was read as “having a lower profile.”

Claims 9-11 are objected to because they are described as original; however, the apostrophe in the word “diver’s” has been replaced with a box. Appropriate correction is required.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 1-16 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Where a claim is directed to an apparatus attached to or worn by a human body, or any part thereof, the claim is directed to

nonstatutory subject matter because the claim positively recites part of a human body. See: 1077 Official Gazette, April 21, 1987.

Claims 1, 5 and 12 are rejected because they claim “to provide a gas scrubbed canister having a lower profile on a diver’s body.” This rejection can be obviated by providing the term "adapted to" prior to the phrase “to provide a gas scrubbed canister having a lower profile on a diver’s body.”

Any remaining claims are rejected as depending from a rejected base claim.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 5, and 12 have been amended “to provide a gas scrubber canister having a lower profile on a diver’s body; however, it is unclear what the lower profile is being compared against. The term lower is a relative term and without a reference point it is unclear what it is lower then. Is it lower than the profile of a cylinder canister?

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanwisher (3,556,098).

Regarding claim 1, Kanwisher in a rebreather apparatus discloses a means for providing breathable gases to a user of the apparatus and transporting gases exhaled by the user to a medium (16) for removing unwanted elemental molecules from the exhaled gases (Fig. 1; elements 10, 12, 14); means for providing compressed gases to the apparatus (10, 12); means for monitoring the gases circulating through the apparatus and controlling the addition of compressed gas to the apparatus (48, 49, 60); a gas scrubber canister (14) having at least one removable end caps (65, 66) and a cross sectional cylinder shape (Fig. 2); the at least one removable end caps (65, 66) being located one at each end of the gas scrubber canister (14; Fig. 2); the gas scrubber canister (14) configured for securing a disposable adsorbent (16) material, used to remove unwanted elemental molecules from the exhaled gases, in the interior thereof (Figs. 1, 2); the gas scrubber canister (14) having a general hollow interior tube (Fig. 2, note where 68 runs) located in the approximate center thereof, the tube having the same cross sectional shape as the gas scrubber and configured to allow gases to pass radially through the walls of the tube (note arrows at 39, Fig. 2); the gas scrubber canister being further configured such that when the adsorbent material (16) is placed between the canister (14) wall and the adsorbent material throughout the portion of the canister containing the adsorbent such that gases will pass radially through the adsorbent material between the hollow tube and the space between the canister wall and the adsorbent material (Figs. 2) and the apparatus (Figs. 1, 2); and the apparatus

further comprising means for securing the apparatus to the body of a user of the apparatus (Fig. 1).

However, Kanwisher lacks the gas scrubber canister having a cross sectional shape selected from the group of shapes consisting of an oval and ellipse. It has been well established that a change in shape of a prior art device is a design consideration within the skill if the art. In Re Dailey, 357 F. 2d 669, 149 USPQ 47 (CCPA 1966). Moreover, a skilled artisan would have been motivated to modify a gas scrubber canister to an oval or elliptical shape in order to provide additional carbon dioxide absorbent material surface area for exhaled gas to pass through prior to the gas being rebreathed by the user.

Regarding claim 2, Kanwisher discloses wherein the at least one removable end cap (65, 66) is configured for placing a gas monitoring and control system therein (48, 49, 60).

Regarding claim 3, Kanwisher discloses wherein the at least one removable end cap is two end caps such that the scrubber canister (14) has two removable end caps (65, 66).

Regarding claim 4, Kanwisher discloses the claimed invention except for both end caps having a gas monitoring control system. Based upon the claim language of claim 2, "...wherein the at least one removable end cap is configured..." Kanwisher is fully capable of having both end caps having a gas monitoring control system because there is ample room at both ends of the caps to insert some form of gas monitoring

means. Therefore, Kanwisher is readable upon the claimed limitations of a gas monitoring control system on both caps.

Regarding claim 5, Kanwisher discloses a gas supply circuit having a mouthpiece (20), an inhalation portion (24) an exhalation portion (28) and at least one counter lung (18); the inhalation portion and exhalation portion each having at least one gas conduit (Fig. 1); the mouthpiece (20) being connected to the inhalation portion and exhalation portion and configured to allow inhalation of gases from the inhalation portion and exhalation of gases into the exhalation portion; a source of compressed gas (10, 12); the source of compressed gas being in communication with the gas supply circuit by at least one compressed gas conduit (Fig. 1); at least one control system (48, 49, 60) for monitoring the gases circulating through the gas supply circuit and controlling the addition of compressed gas into the gas supply circuit; a gas scrubber canister (14) having at least one removable end cap (65, 66), a removable insert (not illustration of Fig. 2 below) secured in the interior thereof such that there is a generally uniform space between the wall of the canister and the insert (Fig. 2), and a cross sectional cylinder shape; the at least one removable end cap being located at each end of the gas scrubber canister (65, 66, 14); the at least one removable end cap configured for water tight attachment to the gas scrubber canister and connection to the gas circuit via the gas conduits of the inhalation and exhalation portions of the gas supply circuit (Fig. 2); the insert configured for holding a disposable adsorbent (16) material used to remove unwanted elemental molecules from the gas supply circuit (Figs. 1, 2); the insert having a general hollow tube in the approximate center thereof and a plurality of holes there

through to allow gases to pass through the insert and the gas scrubbing medium (note illustration of Fig. 2 below); the insert further configured such that when the insert is secured in the gas scrubber canister (14) and filled with an adsorbent material (16); the at least one removable end cap (65, 66) is placed on the gas scrubber canister and connected to the gas supply circuit (Figs. 1, 2); gases will pass radially through the insert and adsorbent material between the tube and the space between the canister wall and the insert; the insert, and the hollow tube having the same cross sectional shape as the gas scrubber canister (14); and the apparatus further comprising a harness (86) for securing the apparatus to the body of a person using the apparatus (Fig. 1).

However, Kanwisher lacks the gas scrubber canister having a cross sectional shape selected from the group of shapes consisting of an oval and ellipse. It has been well established that a change in shape of a prior art device is a design consideration within the skill if the art. In Re Dailey, 357 F. 2d 669, 149 USPQ 47 (CCPA 1966). Moreover, a skilled artisan would have been motivated to modify a gas scrubber canister to an oval or elliptical shape in order to provide additional carbon dioxide absorbent material surface area for exhaled gas to pass through prior to the gas being rebreathed by the user.

Regarding claim 6, Kanwisher discloses wherein the at least one removable end cap (65, 66) is configured for placing a gas monitoring and control system therein (48, 49, 60).

Regarding claim 7, Kanwisher discloses wherein the at least one removable end cap is two end caps (65, 66) such that the scrubber canister has two removable end caps (Fig. 2).

Regarding claim 8, Kanwisher discloses the claimed invention except for both end caps having a gas monitoring control system. Based upon the claim language of claim 2, "...wherein the at least one removable end cap is configured..." Kanwisher is fully capable of having both end caps having a gas monitoring control system because there is ample room at both ends of the caps to insert some form of gas monitoring means. Therefore, Kanwisher is readable upon the claimed limitations of a gas monitoring control system on both caps.

Regarding claim 9, Kanwisher discloses wherein the apparatus is configured such that the gas scrubber canister (14) is worn on a divers back (Fig. 1).

Regarding claim 10, Kanwisher discloses wherein the long axis of the canister (14) is parallel with the long axis of the diver's body (Figs. 1, 2).

Regarding claim 11, Kanwisher is configured such that that gas scrubber canister (14) can be worn on the front of a diver's body (Figs. 1, 2).

Regarding claim 12, note rejection of claims 1 and 5 above.

Regarding claim 13, note rejection of claim 6 above.

Regarding claim 14, Kanwisher discloses wherein the at least one removable end cap (65, 66) is configured for placing a gas monitoring and control system therein (48, 49, 60).

Regarding claim 15, it is well known in the art to use O-rings to provide a water tight seals and since the device disclosed by Kanwisher is for underwater breathing, it would have been obvious to one having ordinary skill in the art at the time the invention was made to seal the end caps to the canister with well-known, commonly used O-rings to provide a good, water tight seal.

Regarding claim 16, the device of Kanwisher is fully capable of meeting the claimed functional limitations of the apparatus being easily reconfigured such that the position of the gas scrubber canister and the compressed gas source can be worn on the diver's body can be changed.

Clearly Kanwisher structurally meets the limitations of the claims and since claim 12 does not further define any structural limitations it is the examiner's position that Kanwisher is fully capable of the device being worn on a user's front and/or back, even though it may not be comfortable, it is fully capable of being done by a user, especially since there is no structural limitations that define over Kanwisher.

Response to Arguments

11. Applicant's arguments filed 1/15/08 have been fully considered but they are not persuasive.

Applicant argues that the only canister shape of the gas scrubber canister disclosed by Kanwisher is that of a cylinder. Applicant argues that one having ordinary skill in the art would not be drawn to modify the cylindrical chamber and canister disclosed by Kanwisher into an elliptical or oval structure in cross section because Kanwisher fails under section 102 to disclose these shapes. Finally, applicant argues

that Kanwisher does not disclose a radial flow of the gasses through the absorbent material but rather causes the gas to flow longitudinally.

Regarding applicants argument that the canister shape of Kanwisher is that of a cylinder, the examiner respectfully agrees. However, by taking an angular cross section of a cylinder, one would obtain an oval or elliptical cross sectional shape as claimed. Applicant has not defined that the cross-section must be taken at any specific angle and therefore, the apparatus of Kanwisher meets the structural limitations of the gas scrubber canister cross sectional shape, as claimed.

Regarding the oval or elliptical shape of the gas scrubber canister having a lower profile on a diver's body, it has been well established that a change in shape of a prior art device is a design consideration within the skill if the art. In Re Dailey, 357 F. 2d 669, 149 USPQ 47 (CCPA 1966). Moreover, a skilled artisan would have been motivated to modify a gas scrubber canister to an oval or elliptical shape in order to provide additional carbon dioxide absorbent material surface area for exhaled gas to pass through prior to the gas being rebreathed by the user.

Finally, in regard to applicant's argument that Kanwisher does not disclose a radial flow of the gasses through the absorbent material but rather causes the gas to flow longitudinally. Gas moves in a random fashion (i.e. the kinetic theory of gases) in all directions and it would inherently move in a radial direction (to some extent) even if forces are applied to move it in a longitudinal direction.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

13. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CLINTON OSTRUP whose telephone number is (571)272-5559. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Justine Yu can be reached on (571) 272-4835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Clinton Ostrup/
Examiner, Art Unit 3771

/Justine R Yu/
Supervisory Patent Examiner, Art Unit 3771